

R E M A R K S

By this amendment, claim 15 has been canceled, and the independent claims (nos. 1 and 17) have been amended. Claims 6 and 8 have also been withdrawn. Accordingly, claims 1-5, 7, 9-14 and 16-19 are at issue.

As amended, independent claims 1 and 17 now both specifically recite the Fig. 1 embodiment feature in which the multifunction tube may be supplied by a coolant fill supply. Both claims generally recite a structure in which the inlet header is on the top of the radiator, with one chamber defined in the inlet header above the multifunction tube and a separate chamber defined in the inlet header above the coolant tubes, and a filling line extending from a coolant fill supply to the chamber above the multifunction tube.

The claims as originally filed were variously rejected as either obvious under 35 U.S.C. § 103(a) over Meyerhofer U.S. Patent No. 4,791,982 in view of Kato U.S. Patent No. 5,697,433, or as anticipated under 35 U.S.C. § 102(a) (or in the alternative obvious) over Fukuoka U.S. Patent No. 6,341,648.

Meyerhofer discloses a radiator which includes some tubes larger than others, but discloses nothing with respect to separate chambers in the inlet header whereby a filling line may provide coolant separately to the multifunction tube. Kato (which was cited principally for its teaching of brazing to join heat exchanger components) similarly has no such disclosure.

Fukuoka discloses a heat exchanger in which larger and smaller tubes are provided, with headers separated to provide, for example, multipass-type flow. Thus, fluid is inlet to some of the tubes on one side of the header and is outlet from tubes on the other side of the header (in which case the headers are both inlet and outlet headers). In no case, however, are the headers divided so that one header chamber is provided to inlet fluid to the larger tubes and a separate header chamber is provided to inlet fluid to the smaller tubes. Even in the headers which are divided in Fukuoka, each separate chamber is connected with both large and small tubes (see, e.g., Figs. 8, 9, 13 and 26). Moreover, there is nothing in Fukuoka remotely akin to the filling line from a coolant fill supply capable of separately supplying coolant to the larger tube such as disclosed by applicant and recited in the amended claims. Inlet pipe 22 is simply the radiator inlet for all flow, not a separate line for a multifunction tube providing the filling function such as described fully at page 9, line 7 to page 10, line 7.

Specifically, independent claim 1 recites, *inter alia*, a vehicle radiator with flat tubes and at least one multifunction tube on one side, a partition defining separate inlet chambers in the inlet header, with one of the chambers being above the multifunction tube and the other chamber being above the coolant flat tubes so that coolant in the multifunction tube is received from one chamber and coolant in the coolant flat tubes is received from

the second chamber; and a filling line between a coolant fill supply and the first inlet chamber for adding coolant to the radiator. Independent claim 17 recites, *inter alia*, a vehicle radiator with vertical coolant flat tubes having their upper end soldered to an inlet header, a multifunction flat tube having an inner flow resistance smaller than that of the coolant flat tubes whereby more coolant flows through said multifunction flat tube than flows through an individual coolant flat tube per unit time to influence temperature distribution over the entire radiator. Moreover, like claim 1, claim 17 recites a partition in the inlet header defining separate first and second inlet chambers above the multifunction flat tube and the coolant flat tubes, respectively, and a filling line between a coolant fill supply and the first coolant chamber for adding coolant to the radiator.

As detailed above, the references neither disclose nor suggest such a radiator, with the inlet header split into chambers for inputting coolant to the different tubes and a filling line connecting a coolant supply to the chamber associated with the multifunction tube. Of course, such a structure is not merely different, but it provides functional advantages not provided by the structures of the references.

The various dependent claims recite details of further advantageous features of the present invention. For example, claims 2 and 18 further recite a second multifunctional tube on the opposite side of the radiator core

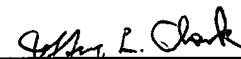
and related additional filling structure, which provides ideal strength to the radiator as well as filling and desired cooling distribution functions as detailed in the specification. The other claims recite still further details of preferred embodiments, which embodiments are clear patentable improvements over the references. Given the clarity of the allowability of their base claims, however, the detailed discussion of those claims is not necessary here.

In view of the above, all of the pending claims are believed to be allowable as presented herein. Moreover, inasmuch as withdrawn claims 6 and 8 depend from allowable generic claims, allowance of those claims is believed to be appropriate as well. Thus, early notification of the allowability of pending claims 1-14 and 16-19 is respectfully requested.

Respectfully submitted,

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